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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/095,032	06/10/1998	RONALD L. MOSGROVE	INPA.221	9175

7590

05/10/2004

WILLIAM W. KIDD
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER

LEFKOWITZ, SUMATI

ART UNIT

PAPER NUMBER

2112

DATE MAILED: 05/10/2004

26

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/095,032

Applicant(s)MOSGROVE, RONALD L. **Examiner**

Sumati Lefkowitz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-46 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-9, 13-21, 25-28, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawande et al., 6,219,697 (hereinafter Lawande) in view of what was well known in the art as exemplified by Applicant's Admitted Prior Art (hereinafter AAPA).

As to claims 1, 3-9, 13-21, 25-28, and 32, Lawande discloses a bus system comprising a dynamically configurable bus (i.e., IEEE 1394 serial bus), a first bus device on the bus at a first virtual address and a first physical address, a second bus device on the bus at a second virtual address and a second physical address, and a map of the first and second virtual addresses to the first and second physical addresses, respectively, encoded on a program storage medium (i.e., look-up table 198 in RAM 196), the map being accessible over the bus, wherein at least one of the first and second virtual addresses is a unique identifier (i.e., unchangeable network identifier) wherein the map resides on at least one of the first and second bus devices, wherein at least one of the first and second bus devices is a bus manager (i.e., network manager 190), wherein the bus manager comprises one of a workstation and a personal computer, wherein the map is stored on

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the bus manager, wherein the bus system implements a network, wherein at least one of the first and second bus devices is selected from the group comprising a printer, a plotter, a workstation, a personal computer, a video camera, and a magnetic tape drive, wherein the map is encoded as a structure from the group of an array, a doubly linked list, a tree, a table, and a file, that the bus is dynamically configurable, and that the mapping is performed only for the bus devices experiencing a configuration event (note abstract, Figures 6A-6C and 8, column 3, line 58 – column 4, line 17, column 4, lines 60-65, column 11, line 37 – column 16, line 40, wherein the network identifier (NID) reads on a GUID since it is unchangeable, universally unique, hardwired (i.e., programmed at the factory), since it is programmed into the node using a ROM and never changes for the lifetime of the node – see column 14, lines 53-57).

Lawande fails to disclose that the unique identifiers are guaranteed unique identifiers, but does disclose the use of a network identifier (NID) which acts as a permanent unique node identifier since it does not change upon a bus reset (note column 14, lines 50-60).

Examiner takes Official Notice that GUIDs and their use are well-known in the art and, in addition to being unique, are guaranteed to be constant, evidence of which may be found in AAPA on page 11, lines 4-8.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of unchangeable GUIDs, which do not change across bus resets, in the address resolution scheme of Lawande, since Lawande teaches that in order to maintain continuity of operation across bus resets, it is necessary to map addresses which change across bus resets (i.e., IP and IEEE 1394) to addresses which do not change across bus resets (i.e., network identifiers, NIDs) (note column 14, line 50 – column 16, line 40). As such, it would

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have been obvious to use any address which would not change across bus resets, including NIDs and GUIDs, to maintain continuity of operation across bus resets, with GUIDs being used for their ability to remain constant even across bus resets.

4. Claims 10, 22, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawande et al., 6,219,697 (hereinafter Lawande) in view of what was well known in the art as exemplified by Applicant's Admitted Prior Art (hereinafter AAPA), as applied to claims 1, 3-9, 13-21, 25-28, and 32 above, and further in view of what was well known in the art as exemplified by Beasley, 5,949,785.

As to claims 10, 22, and 30, Lawande fails to disclose that the map is bi-directional.

Examiner takes Official Notice that bi-directional maps are well known in the art of address/id mapping, evidence of which may be found in Beasley in column 8, lines 32-43 and column 15, lines 1-30.

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of a bi-directional map in the system of Lawande so as to provide more flexibility in accessing the map by allowing the data in the map to be indexed with more than one index.

5. Claims 11, 12, 23, 24, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawande et al., 6,219,697 (hereinafter Lawande) in view of what was well known in the art as exemplified by Applicant's Admitted Prior Art (hereinafter AAPA), as applied to claims 1, 3-

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9, 13-21, 25-28, and 32 above, and further in view of what was well known in the art as exemplified by Duckwall et al., 5,875,301 (hereinafter Duckwall).

As to claims 11, 12, 23, 24, and 29, Lawande fails to disclose that the bus includes a first dynamically configurable bus and a second dynamically configurable bus coupled by a bridge, but does disclose the mapping of virtual addresses to physical addresses is performed only for bus devices experiencing a configuration event.

Examiner takes Official Notice that computer/network systems with a hierarchy of IEEE 1394 buses coupled by bridges are well known in the art of computer/network systems, evidence of which may be found in Duckwall in column 5, lines 32-56.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have multiple IEEE 1394 buses coupled by a bridge in the system of Lawande so as to allow for the connection of additional IEEE 1394 devices on additional buses when the limits set by the IEEE 1394 standard have been reached.

6. Claims 2, 14, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawande et al., 6,219,697 (hereinafter Lawande) in view of Fujimori et al., 5,978,854 (hereinafter Fujimori).

As to claims 2, 14, and 31, Lawande fails to disclose that the map is distributed across a plurality of bus devices on the first bus.

Fujimori discloses that the map is distributed across a plurality of bus devices on the first bus (note column 3, lines 1-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to distribute the map across a plurality of devices on the first bus, as Fujimori teaches, in the system of Lawande so as to relieve the typically used one device from the burden of keeping track of physical IDs and unique IDs.

7. Claims 33-37 and 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawande et al., 6,219,697 (hereinafter Lawande) in view of what was well known in the art as exemplified by Applicant's Admitted Prior Art (hereinafter AAPA) and Fujimori et al., 5,978,854 (hereinafter Fujimori).

As to claims 33-37, and 40-44, Lawande discloses a bus system comprising a dynamically configurable bus (i.e., IEEE 1394 serial bus), a first bus device on the bus at a first virtual address and a first physical address, a second bus device on the bus at a second virtual address and a second physical address, and a map of the first and second virtual addresses to the first and second physical addresses, respectively, encoded on a program storage medium (i.e., look-up table 198 in RAM 196), the map being accessible over the bus, wherein at least one of the first and second virtual addresses is a unique identifier (i.e., unchangeable network identifier) wherein the map resides on at least one of the first and second bus devices, wherein at least one of the first and second bus devices is a bus manager (i.e., network manager 190), wherein the bus manager comprises one of a workstation and a personal computer, wherein the map is stored on the bus manager, wherein the bus system implements a network, wherein at least one of the first and second bus devices is selected from the group comprising a printer, a plotter, a workstation, a personal computer, a video camera, and a magnetic tape drive, wherein the map is encoded as a

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structure from the group of an array, a doubly linked list, a tree, a table, and a file, that the bus is dynamically configurable, and that the mapping is performed only for the bus devices experiencing a configuration event (note abstract, Figures 6A-6C and 8, column 3, line 58 – column 4, line 17, column 4, lines 60-65, column 11, line 37 – column 16, line 40).

Lawande fails to disclose that the unique identifiers are guaranteed unique identifiers, but does disclose that other protocols besides the IP and IEEE 1394 protocols may be used when implementing the address resolution scheme disclosed by Lawande using a look-up table (note column 12, lines 11-28).

Examiner takes Official Notice that GUIDs and their use are well-known in the art and, in addition to being unique, are guaranteed to be constant, evidence of which may be found in AAPA on page 11, lines 4-8.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of unchangeable GUIDs, which do not change across bus resets, in the address resolution scheme of Lawande, since Lawande teaches that in order to maintain continuity of operation across bus resets, it is necessary to map addresses which change across bus resets (i.e., IP and IEEE 1394) to addresses which do not change across bus resets (i.e., network identifiers, NIDs) (note column 14, line 50 – column 16, line 40). As such, it would have been obvious to use any address which would not change across bus resets, including NIDs and GUIDs, to maintain continuity of operation across bus resets, with GUIDs being used for their ability to remain constant even across bus resets.

Lawande fails to disclose that the map is distributed across a plurality of bus devices on the first bus.

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Fujimori discloses that the map is distributed across a plurality of bus devices on the first bus (note column 3, lines 1-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to distribute the map across a plurality of devices on the first bus, as Fujimori teaches, in the system of Lawande so as to relieve the typically used one device from the burden of keeping track of physical IDs and unique IDs.

8. Claims 38 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawande et al., 6,219,697 (hereinafter Lawande) in view of what was well known in the art as exemplified by Applicant's Admitted Prior Art (hereinafter AAPA) and Fujimori et al., 5,978,854 (hereinafter Fujimori), as applied to claims 33-37 and 40-44 above, and further in view of what was well known in the art as exemplified by Beasley, 5,949,785.

As to claims 38 and 45, Lawande fails to disclose that the map is bi-directional.

Examiner takes Official Notice that bi-directional maps are well known in the art of address/id mapping, evidence of which may be found in Beasley in column 8, lines 32-43 and column 15, lines 1-30.

It would have been obvious to one of ordinary skill in the art at the time of the invention to employ the use of a bi-directional map in the system of Lawande so as to provide more flexibility in accessing the map by allowing the data in the map to be indexed with more than one index.

9. Claims 39 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable

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over Lawande et al., 6,219,697 (hereinafter Lawande) in view of what was well known in the art as exemplified by Applicant's Admitted Prior Art (hereinafter AAPA) and Fujimori et al., 5,978,854 (hereinafter Fujimori), as applied to claims 33-37 and 40-44 above, and further in view of what was well known in the art as exemplified by Duckwall et al., 5,875,301 (hereinafter Duckwall).

As to claims 39 and 46, Lawande fails to disclose that the bus includes a first dynamically configurable bus and a second dynamically configurable bus coupled by a bridge, but does disclose the mapping of virtual addresses to physical addresses is performed only for bus devices experiencing a configuration event.

Examiner takes Official Notice that computer/network systems with a hierarchy of IEEE 1394 buses coupled by bridges are well known in the art of computer/network systems, evidence of which may be found in Duckwall in column 5, lines 32-56.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have multiple IEEE 1394 buses coupled by a bridge in the system of Lawande so as to allow for the connection of additional IEEE 1394 devices on additional buses when the limits set by the IEEE 1394 standard have been reached.

Response to Arguments

10. Applicant's arguments filed 2/25/04 have been fully considered but they are not persuasive for the following reasons:

IP addresses and virtual addresses are not synonymous as appears to be asserted in the Office action.

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Examiner did not assert that IP addresses and virtual addresses are synonymous.

Examiner asserted that the unchanging, unique network identifier of Lawande reads on the claimed unchanging virtual address, which is disclosed as also being a unique identifier, and IEEE 1394 addresses read on the claimed physical addresses, since they do not remain constant across bus resets.

Lawande teaches no such unchangeable identifier. Lawande teaches just the opposite in regard to the virtual address (i.e., IP address) of an IEEE 1394 device.

Again, Examiner did not assert the IP address of Lawande as a teaching of the claimed unchangeable virtual address. Examiner asserted the unchanging, unique network identifier at column 14, lines 14-21 as a teaching of the claimed unchangeable, virtual address.

There is no suggestion in the prior art for combining GUIDs and Lawande.

It is the examiner's position that Lawande recognizes the drawbacks of IEEE 1394 addresses changing upon bus reset, and solves the problem by mapping a non-changeable device address to a changeable address in a look-up table so as to maintain continuity of operation on a bus even in the event of a reconfiguration event which causes a bus reset. The non-changeable device address used is a network ID and the changeable addresses used are IP and IEEE 1394 addresses. Whether the changeable addresses are physical or logical is irrelevant to the overall concept of mapping an address/id that is unchangeable to one(s) that is changeable to maintain continuity across bus resets. The fact that Lawande does not use a GUID as the non-changeable device address does not render the claim non-obvious in view of Lawande. Given that GUIDs

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are well known in the art as being unchangeable, as evidenced by AAPA, and given that Lawande teaches and suggests the benefits of using an address which is unchangeable across bus resets to provide a look-up table with a translation of unchangeable to changeable device addresses in order to provide continuity of operation across bus resets, it is believed that one of ordinary skill in the art would have been motivated, using the suggestion of Lawande, to use GUIDs or any other device address which is non-changeable across bus resets to provide continuity of operation across bus resets.

Conclusion

11. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the

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examiner should be directed to Sumati Lefkowitz whose telephone number is 703-308-7790.

The examiner can normally be reached on Monday-Friday from 6:00-2:3030.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart, can be reached at 703-305-4815.

The fax phone numbers for the organization where this application or proceeding is assigned are:

703-746-7238 for After-Final communications

703-872-9306 for Official communications

703-746-5661 for Non-Official/Draft communications

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Sumati Lefkowitz
Primary Examiner
Art Unit 2112

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May 7, 2004